

## SYNONYMIC AND OTHER NOTES ON FORMICIDÆ (HYMENOPTERA)\*

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In 1945 Dr. E. V. Enzmann published a paper entitled "Systematic Notes on the Genus *Pseudomyrma*."<sup>1</sup> Since this contains more confused taxonomy per page than any other work on the Formicidae I have ever encountered in twelve years of reading in the field, I have considered it advisable to publish an account of some of the synonymy involved.

The worst, but by no means the only, category of errors lies in the series of forms of *Pseudomyrma* described as new from the types which Wheeler had set up in his "Studies of Neotropical Ant-plants and Their Ants," published posthumously in 1942<sup>2</sup> and overlooked by Enzmann.

Wheeler's types were labelled *as types* in the usual Museum manner, and each series bore Wheeler's clearly legible determination label. Enzmann copied these names and used them in his paper, creating a series of synonym-homonyms, but since he made several mistakes in transcribing the spelling, some of the species may be considered synonymous but not strictly homonymous. Of the remainder of Enzmann's publication, much may be safely ignored by taxonomists, including the erratic keys and the pseudophylogenetic separation into "branches" and "groups." Some forms described as new are from sources other than the Wheeler type material; since the Enzmannian types have not been made available for study, it will devolve upon the future reviser of *Pseudomyrma*, a genus well-scrambled even in pre-Enzmannian times, to decide the fate of the species not treated here.

The species are listed as Wheeler had them, each with the corresponding Enzmannian form beneath it. To

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<sup>1</sup> Psyche, 51: 59-103, 3 pls. (1945).

<sup>2</sup> Bull. Mus. Comp. Zool. Harvard, 90: 1-262, 56 pls. (1942).

shorten the task, I have given date and page references only; plate and figure references are omitted. References to Wheeler's 1942 and Enzmann's 1945 papers are given in the preceding footnotes. The Museum of Comparative Zoology type catalog numbers are contained in parentheses with the initials (MCZ).

*Pseudomyrma alliadora* Wheeler

Wheeler, 1942, pp. 157-158.

*P. alliadora* [sic!] E. Enzmann, 1945, pp. 77-78 (MCZ 20533).

*Pseudomyrma belti* subsp. *saffordi* Wheeler

Wheeler, 1942, p. 162.

*P. sabanica* var. *saffordi* E. Enzmann, 1945, p. 89 (MCZ 20537).

The term "*sabanica*" is evidently a misspelling of Wheeler's specific name *satanica* (*P. satanica* Wheeler, 1942, pp. 174-175), of which Enzmann considered *saffordi* a variety.

*Pseudomyrma belti* subsp. *venifica* Wheeler

Wheeler, 1942, pp. 162-163.

*P. belti* subsp. *venifica* E. Enzmann, 1945, p. 81 (MCZ 20538).

*Pseudomyrma belti* subsp. *bequaerti* Wheeler

Wheeler, 1942, p. 164.

*P. belti* subsp. *bequaerti* E. Enzmann, 1945, pp. 80-81 (MCZ 23139).

*Pseudomyrma latinoda* var. *coronata* Wheeler

Wheeler, 1942, pp. 167-168

*P. latinoda* var. *coronata* E. Enzmann, 1945, p. 88 (MCZ 20542).

*Pseudomyrma latinoda* subsp. *bradleyi* Wheeler

Wheeler, 1942, p. 169.

*P. bradleyi* E. Enzmann, 1945, p. 82 (MCZ 22864).

*Pseudomyrma sericea* var. *acaciarum* Wheeler

Wheeler, 1942, p. 176.

*P. sericea* var. *acaciorum* [sic!] E. Enzmann, 1945, p. 90 (MCZ 22865).

*Pseudomyrma spinicola* subsp. *sclerosa* Wheeler

Wheeler, 1942, pp. 180–181.

*P. spinolæ* [sic!] var. *infernalis* E. Enzmann, 1945, p. 91 (MCZ 20547).

*Pseudomyrma spinicola* subsp. *sclerosa* Wheeler

Wheeler, 1942, pp. 181–182.

*P. spinolæ* [sic!] var. *sclerosa* E. Enzmann, 1945, pp. 91–92 (MCZ 23145).

*Pseudomyrma triplaridis* subsp. *baileyi* Wheeler

Wheeler, 1942, pp. 185–186.

*P. triplaridis* subsp. *biolleyi* [sic!] E. Enzmann, 1945, pp. 93–94 (MCZ 20548).

*Pseudomyrma triplaridis* subsp. *tigrina* Wheeler

Wheeler, 1942, p. 186.

*P. triplaridis* subsp. *trigona* [sic!] E. Enzmann, 1945, pp. 94–95 (MCZ 23147).

*Pseudomyrma triplaridis* subsp. *boxi* Wheeler

Wheeler, 1942, p. 184.

*P. triplaridis* subsp. *boxi* E. Enzmann, 1945, p. 94 (MCZ 23146).

The two following forms which Wheeler saw, but refrained from describing, are easily synonymized with common species of *Pseudomyrma*.

*Pseudomyrma gracilis* (Fabricius)

Fabricius, 1805, Syst. Piez., p. 405 (*Formica*).

*P. gracilis* var. *longinoda* E. Enzmann, 1945, p. 87 (MCZ 26812).

*Pseudomyrma triplarina* (Weddell)

Weddell, 1849, Ann. Sc. Nat. Bot. (3) **13**: 40-113,  
249-268 (*Myrmica*).

*P. arboris-sanctæ* Emery, 1894, Bull. Soc. Ent. Ital.,  
**26**: 147.

*P. arboris-sanctæ* var. *ecuadoriana* E. Enzmann, 1945,  
pp. 79-80 (MCZ 26809).

The types of *ecuadoriana* are few, partially fragmented, and accompanied by what appear to be *Azteca* workers glued to the card with the *ecuadoriana*. I can see no characters which distinguish them (*ecuadoriana*) from a series of *triplarina* workers from several South American localities in the Wheeler Collection.

Following the publication of Dr. Enzmann's paper on *Pseudomyrma*, others were published by his daughter, Miss Jane Enzmann. All but one of the species described, however, appear to be synonyms of common Nearctic forms. Dr. William S. Creighton has discussed these forms with me, and I am grateful for his opinions on several obscure cases. His forthcoming book, which amounts to a revision of North American ants, will also carry notes on the synonymy of these forms, but technical difficulties prevent him from dealing with them at any length. Most species treated below involve Enzmannian names, but several other forms of older authors are changed in status as well.

*Myrmecina americana* Emery

*M. latreillei* subsp. *americana* Emery, 1895, Zool. Jahrb. Syst., **8**: 271.

*M. latreillei* subsp. *americana* var. *brevispinosa* Emery, idem., p. 271.

*M. graminicola* subsp. *quadrispina* J. Enzmann, 1946, Jour. N. Y. Ent. Soc., **54**: 13-15, figs. 1, 2, worker.

In the manuscript of his work on North American ants, which he has kindly allowed me to examine, Dr. Creighton has raised the form known for many years as *Myrmecina graminicola* subsp. *americana* to the rank of species.

There appears little objection to this move, though the differences between the Palearctic *graminicola* and the Nearctic form are very slight. The forms *quadrispina* and *brevispinosa*, however, cannot be considered valid forms.

The Enzmannian subspecies (*quadrispina*) was taken (holotype worker) on the south slope of the Blue Hills, a rather restricted elevated area just outside Boston, Massachusetts. Two colonies collected by me in this locality were confined for several months in artificial nests. Specimens killed at the time of collection and others examined after two months of rearing show a wide range of variation in size, sculpture and color. The larger workers, mostly those killed at the time of collection, agree well with the description and figures, as well as my impressions, gained from a rather cursory examination of the type, of *quadrispina*. These workers also agree with Emery's original description of *americana* and with specimens identified as *americana* by Wheeler and by Creighton.

My nests also produced, after a month or so of substarvation conditions, small light-colored workers corresponding well with published descriptions of *brevispinosa* and with specimens determined as such in the Wheeler Collection. These workers were raised from small larvae during a period in which the colonies refused all types of prepared foods, including bread and fats. When ripe seed-heads of timothy and some small herbaceous plants were later introduced, the colony eagerly accepted the seeds as food, but the workers which had previously hatched never became, even after four weeks, as fully colored as the workers reared in the wild. I conclude that the variant *brevispinosa* is merely the stunted workers from either an incipient or poorly-nourished colony.

Both my nests were taken under large, well-embedded stones in a rich, shady beech woods. Each colony occupied a small oval chamber in the soil, about three quarters of an inch in greatest diameter and less than a quarter inch deep, with the smooth lower surface of the stone



forming the immediate roof. The artificial nests were set up on the evening of collection (June 10). A few males also developed from the larvae taken with the nests, and these pupated during early August and developed into adults in late August. All the males escaped both nests through cracks during one night in early September, presumably on nuptial flight, since they had not previously attempted to leave the brood chamber which the ants constructed at the end of each nest from small particles of earth that had been scattered over the nest floor. These chambers were an almost exact replica of the ones found under the stones, open at the top and with a small passage at one side.

The queens never left the brood except on the occasion of the introduction of the first grass seed, when all the workers and one queen left the brood and examined the seeds. The queen returned after a brief period and resumed her watch over the brood.

In studying various *Myrmecina* in the Wheeler Collection, I have seen other forms of very doubtful validity. All these are presently considered subspecies of *graminicola*, under which Wheeler placed them in his original descriptions. *Texana* is supposed to differ from *americana* by its "scotch grain" shagreening of the first gastric segment. However, specimens from many localities in the states east of the Mississippi also possess this characteristic to a varying degree, and specimens from North Carolina and northern Ohio show much heavier sculpture of this type than do the *texana* types. The *texana* types, however, do seem to differ slightly from *americana* in having a much less definitely longitudinal orientation to the rugulation of the head, with the longitudinal rugæ having many prominent transverse spurs and branches. Other Texan specimens I have seen all belong to the typical *americana*, including a specimen identified by Wheeler as *texana*. Since sculpture appears to be one of the several very unstable features of Holarctic *Myrmecina*, I believe that further collecting in Texas and Mexico will show that this form is synonymous with *americana*.

Wheeler's two Oriental forms, *graminicola* subsp. *nipponica* and *graminicola* subsp. *sinensis*, are also doubtful. The former has the anterior clypeal tubercles developed much as in *graminicola*, and seems hardly separable from that form. The latter has the clypeal tubercles reduced and seems scarcely distinguishable from *americana*. I should not be surprised if *sinensis* were to prove to be the same as *sicula*, from the southern Palearctic region; or if both of these (*sicula* and *sinensis*) were identical to *americana*. In fact, the entire Holarctic *Myrmecina* fauna may end by being considered as one huge species cline in which the geographical races have not yet become sufficiently isolated to form distinct subspecies exclusively inhabiting a given area.

*Tetramorium cæspitum* (Linnæus)

Linnæus, 1785, Syst. Nat. (Ed. 10), 1: 581 (*Formica*)

*Myrmica* (*Myrmica*) *brevinodis* var. *transversinodis*  
J. Enzmann, 1946, Journ. N. Y. Ent. Soc., 54: 47-49, figs. 1, 2, worker.

Dr. Creighton and I are in complete agreement that this form (*transversinodis*) must be added to the long list of synonyms of the common pavement ant. Although I have not seen the type, the description, figures and notes on the habits leave little doubt of the correct placement. This ant should not be mistaken for *Myrmica lævinodis*, listed under various names and possibly a subspecies of *M. rubra*, which is an introduced form quite common in the Boston area. *M. lævinodis* sometimes enters houses, but then as solitary individuals probably brought in on clothing, as has been my frequent observation in Cambridge. This *Myrmica* possesses a very potent sting, the effects of which may last for several hours.

*Crematogaster lineolata* (Say)

Say, 1836, Boston Jour. Nat. Hist., 1: 290,  
all castes (*Myrmica*).

*C. lineolata cerasi* var. *punctinodis* J. Enzmann, 1946,  
Jour. N. Y. Ent. Soc., 54: 91-92, pl. 2, fig. 7, all  
castes.

*C. lineolata cerasi* var. *wheldeni* J. Enzmann, idem., p. 92, worker.

Dr. Creighton and I agree that these two forms either represent the typical *lineolata* or intergrade with what Dr. Creighton considers subsp. *subopaca*. Enzmann has raised *cerasi* Fitch to subspecific rank, but Dr. Creighton's forthcoming book will show that this name must be dropped.

*Crematogaster vermiculata* Emery

Emery, 1895, Zool. Jahrb. Syst., 8: 286.

Considered impossible of exact determination, but probably equivalent to *vermiculata* or an intergrade between *vermiculata* and a subspecies, are three forms described in a paper by Jane Enzmann in 1946.<sup>3</sup> These all have in common the name *coachellai* and the subgeneric classification as *Crematogaster* (*Acrocælia*), but here the consistency ends. The synonymous forms with page references to Miss. Enzmann's paper are as follows: *C. lineolata* subsp. *coachellai* "E. Enz. in lit.," p. 93, sec. iii. *C. sanguinea* subsp. *coachellai* "E. Enzmann, in lit.," p. 95, couplet 19. *C. lineolata* var. *coachellai* J. Enzmann, Pl. 2 (p. 97), fig. 3.

The first of these three names is given in a grouped list with a superficial characterization of major sections only, the second appears in a dichotomous key, and the third appears in the legend to the plate. It is doubtful whether or not the authorship should be ascribed to E. Enzmann for the first two of these, even though it seems clear that such was intended. The types of these forms have not been made available to me for study, so I consider the form *coachellai* unrecognizable in the absence of a proper description.

In still another paper by Jane Enzmann<sup>4</sup> the tribe *Aphanogastrini* is set up, a category which is untenable. The genera included in this "tribe" have numerous intergrades with other groups of the *Pheidolini*,<sup>5</sup> to which

<sup>3</sup> Jour. N. Y. Ent. Soc., 54: 91-92 (1946).

<sup>4</sup> Journ. N. Y. Ent. Soc., 55: 147-152, (1947).

<sup>5</sup> *Pheidolini* Emery, Rend. Acad. Sc. Bologna, (1913-14).



*Aphænogaster* and *Novomessor* clearly belong. One astounding error is the appearance of *Lobognathus* as a *sub-genus* in the key on page 152. This appeared to be miscopy of a large label earlier placed by Dr. Creighton on an unidentified specimen of *Veromessor*: Creighton's label in the Wheeler Collection reads "*lobognathus* new subspecies." The name must be considered a *lapsus* and a synonym of *Veromessor*.<sup>6</sup>

Two of the species described in this paper are minor workers, probably from incipient nests, of two well-known North American ants, which are listed below.

*Novomessor albisetosus* (Mayr)

Mayr, 1886, Verh. Zool.-bot. Ges. Wien, **36**: 443-446,  
(*Aphænogaster*).

*N. cockerelli* var. *minor* J. Enzmann, 1947, pp. 147-148,  
Pl. 8, top.

*Aphænogaster fulva* Roger

Roger, 1863, Berl. Ent. Zeitschrift, **7**: 190.

*Aphænogaster fulva* var. *rubida* J. Enzmann, 1947, pp.  
147-148, Pl. 8, bottom.

I have not considered other Enzmannian forms because of my unfamiliarity with the groups concerned and because of my lack of time and taste for the task. The publications considered above should certainly suggest to all who examine them the need for some means of formal nullification of the published extremes of such irresponsible taxonomy.

<sup>6</sup> *Veromessor* Forel, 1917, Bull. Soc. Vaud. Sc. Nat., **51**: 235 (described as subgenus of *Novomessor*).